

SIX FLAGS NEW ENGLAND	
SUBJECT: MATERIALS HANDLING	SAFETY REFERENCE MANUAL
SECTION: 25	
EFFECTIVE: January 2016	SUPERSEDES: ALL PREVIOUS
CFR #'s 1910.176; 1910.106	

25.1 PURPOSE

To establish general guidelines for the safe handling of all materials - flammables, combustibles, and general

25.2 GENERAL PROVISIONS

Where mechanical handling equipment is used, sufficient, safe clearances shall be allowed for aisles at loading docks, through doorways, and wherever turns or passage must be made. Signs to warn of clearance limits shall be provided. Aisles and passageways shall be kept clear and in good repair, with no obstruction across or in aisles that could create a hazard. Permanent aisles shall be appropriately marked.

25.3 GENERAL STORAGE GUIDELINES

Storage of material shall not create a hazard. Bags, bundles, containers, etc., stored in tiers shall be stacked, blocked, interlocked, and limited in height so that they are stable and secure against sliding or collapse.

25.4 GENERAL HOUSEKEEPING RULES

Storage areas shall be kept free from accumulation of materials that constitute hazards from tripping, fire, explosion, or pest harborage. Vegetation control will be exercised when necessary.

25.5 CLEARANCES

Signs to warn of clearance limits shall be provided.

25.6 OPENINGS ON WALKING SURFACES

Covers, chains, or guardrails shall be provided to protect personnel from the hazards of open pits, tanks, vats, ditches, etc.

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25.7 FLAMMABLE AND COMBUSTIBLE MATERIALS

A. Definitions

1. **Flammable Liquids** - any liquid having a flashpoint below 100 degrees Fahrenheit (F). Flammable liquids are known as Class 1 liquids and are divided into three classes:
 - Class 1A - has a flashpoint below 73 degrees Fahrenheit and a boiling point below 100 degrees Fahrenheit (aerosols, isoprene)
 - Class 1B - has a flashpoint below 73 degrees Fahrenheit and a boiling point at or above 100 degrees Fahrenheit (ethyl chloride)
 - Class 1C - has a flashpoint at or above 73 degrees Fahrenheit and a boiling point below 100 degrees Fahrenheit (turpentine, xylene)
2. **Combustible Liquids** - any liquid having a flashpoint at or above 100 degrees Fahrenheit. Combustible liquids are divided into two classes:
 - Class 2 Liquid - any liquid having a flashpoint anywhere from 100 degrees Fahrenheit to 140 degrees Fahrenheit (kerosene, diesel fuel)
 - Class 3 Liquid - any liquid having a flashpoint over 140 degrees Fahrenheit (glycol, glycerin)
3. **Flash Point** - the lowest temperature at which a flammable liquid will give off enough vapors to form an ignitable mixture with the air.
4. **Safety can** - an NFPA approved container, of not more than 5 gallon capacity, having a spring-closing lid and spout cover and so designed that it will safely relieve internal pressure when exposed to high heat or fire.

B. Storage of Flammable and Combustible Liquids

Containers - Flammable and combustible liquids that are not in use shall be stored in safety cans, fire proof metal containers with automatic door closures, or NFPA approved storage cabinets.

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The cabinets should be cleaned periodically to remove collections of dust and other corrosive material. Not more than 120 gallons of Class 1, 2, or 3A liquids shall be in storage cabinets. Of this total, not more than 60 gallons shall be Class 1 or 2.

Indoor Storage Rooms - Openings to other rooms or buildings shall be provided with non-combustible liquid-tight raised sills (curbs) or ramps at least 4 inches in height, or the floor of the storage room will need to be at least 4 inches lower than the floor which surrounds the storage area. These precautions are for spill containment. The room shall be liquid-tight where the wall joins the floor. The door(s) needs to have automatic door closures. A safe trenching system that drains to a safe deposit collection area is the only other approved OSHA approved alternative to sills and ramps.

Inside the storage room there shall be one clear aisle maintained at least 3 feet wide. Containers over 30 gallon capacity shall not be stacked one upon another. Dispensing shall be by an approved pump or self-closing faucet only. In these situations, it will be necessary to either bond or ground the containers to prevent an explosion caused by static electricity accumulation. Automatic sprinkler systems or other approved fire suppression systems must be installed in each indoor storage area.

Incidental storage outside of an indoor storage room or cabinet such as flammable paints used for painting projects shall not exceed 25 gals. (Class 1A) 120 gals.(IB, IC, II, III,) , 660 gals. IB, IC, II, III, in a single portable tank)

Warehouse - Flammable and combustible materials cannot be stacked within 3 feet of overhead sprinkler heads. Aisles of at least 3 feet wide must be maintained for reasons of access to doors, and portable fire extinguishers.

During park-closed hours, the Security Department will ensure that the warehouse and other storage sites are locked and protected from tampering or trespassers and that the outside area is free from unnecessary flammable or combustible material accumulation which could be ignited.

The Safety Department will ensure that the automatic sprinkler system is in good working order and will furnish fully charged portable fire extinguishers.

Storage of idle wooden pallets shall not be stored higher than 6 feet, and shall not be stored in rooms that are not protected by sprinkler systems.

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Leaking containers shall be removed from the floor and taken to a safe location outside of the building and its contents transferred to an undamaged container or over pack.

Office Occupancies - Storage of flammables and combustibles are prohibited except that which is required for maintenance and operation of a building and equipment. Such material must be stored in a storage room that is not accessible to the public and has walls that are constructed with fire resistance rating of at least two hours.

C. Handling Liquids at Point of Final Use

1. Flammable liquids shall be in covered containers when not in use.
2. Where flammables or combustible liquids are used or handled, except in closed containers, means shall be provided to dispose promptly and safely of leakage or spills.
3. Class 1 liquids may be used only where there are no open flames or other sources of ignition within the possible path of a vapor trail.
4. Flammable or combustible liquids shall be drawn from or transferred into containers or portable tanks within a building only through a closed piping system, safety cans, or containers. Containers must be bonded by wire when transferring from one container to another, and must be grounded when transferring from one container to another type of receiving source. This will help prevent the possibility of an explosion from occurring due to static electricity accumulation. Class 1 liquids shall not be handled, drawn, or dispensed where flammable vapors may reach a source of ignition.

D. Storage in Above Ground Storage Tanks

Where large quantities of flammables or combustibles are necessary, storage may be in above ground storage tanks that meet the following requirements:

1. The minimum distance between two above ground flammable storage tanks is at least 3 feet.

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2. The minimum distance between a liquefied petroleum gas (LPG) tank and a flammable or combustible storage is at least 20 feet.
3. Tank supports shall be installed on firm foundations such as concrete, masonry or protected steel.
4. Areas surrounding tanks shall be provided with adequate drainage or diking.

NOTE: Guard rails, containment and vault protection shall be in place where required by city law.

E. Flammable Material Handling and Paint Spray Booths

Spray booths in the paint shop must be well ventilated to prevent the accumulation of flammable and hazardous atmospheres. Smoking and open lights are not allowed within 20 feet of the booths. This includes welding or cutting of any type. The space within the booths on the downstream and upstream sides of the filters is protected by automatic sprinklers. The booths are installed so that all portions are readily accessible for cleaning. A clear space of 3 feet on all sides must be kept free from storage or combustible construction.

The quantity of flammable or combustible liquids kept in the vicinity of spray operations shall be the minimum required for operation and will not exceed a supply for one day or one shift, all flammable or combustibles shall be placed inside the storage warehouse, or the paint and fiberglass building's chemical storage room.

Fixed, explosion-proof lighting shall be used for illumination of paint spray booths and will be arranged in a manner to prevent breakage and over-accumulation of residue.

The interior of paint spray booths shall be smooth and continuous to prevent pocketing of residue, to permit the free passage of exhaust air from all parts of the interior and to facilitate washing and cleaning without injury. To enhance this quality, the spray booths will be maintained and cleaned on a regular scheduled basis.

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The spray booth's floor shall be constructed of noncombustible material or shall be covered with a non-sparking material to prevent fire and injury.

The use of solvents for cleaning operations shall be restricted to Class 2 and 3 Liquids except those solvents with flash points not less than those usually used in spraying operations, may be used for cleaning spray nozzles and auxiliary equipment, provided such cleaning is conducted inside the spray booths and that the ventilation equipment is operating and respirators are being utilized during cleaning.

Paint spraying shall not be performed outside of predetermined spraying areas.

The ventilation system in the spray booth shall be equipped with an interlocking system that:

- maintains a safe atmosphere at any source of ignition
- automatically shuts down the heating system in the event of ventilating system failure

25.8 TRANSPORTING MATERIALS

Vehicles used to transport flammable and or combustible liquids or materials shall be in proper working order ensuring that:

1. All electrical wiring shall be protected and securely fastened to prevent short circuits from occurring.
2. The chassis, motor, oil pan, and body underside shall be reasonably clean and free from excess oil and grease.
3. A fire extinguisher is in place and is fully charged.
4. Brakes, lights, backup alarm, and horn functions properly.
5. The load is stable and will not fall.

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25.9 SMOKING AND OPEN LIGHTS

Due to potential fire and explosion hazards there shall be positively no smoking or open lights permitted in flammable and combustible storage areas, or within 50 feet of buildings that store such materials. "No Smoking" signs shall be posted conspicuously at the entrance of each area where flammable and combustible materials are used or stored.